

|                                |  |
|--------------------------------|--|
| HIV1LAI (DP-178; SEQ ID NO.:1) | YTSLIHSLIEESQNQKEKNEQELLELDKWASLWNWF     |
| HIV1SF2 (DP-185; SEQ ID NO.:3) | YTNTIYTLLEESQNQKEKNEQELLELDKWASLWNWF     |
| HIV1RF (SEQ ID NO.:4)          | YTGIYNNLLEESQNQKEKNEQELLELDKWANLWNWF     |
| HIV1MN (SEQ ID NO.:5)          | YTSLIYSLLEKSQTQKEKNEQELLELDKWASLWNWF     |
| HIV2R0D (SEQ ID NO.:6)         | LEANISKSLEQAQIQKEKNMYELQKLSWDIFGNWF      |
| HIV2NIHZ (SEQ ID NO.:7)        | LEANISQSLEQAQIQKEKNMYELQKLSWDVFTNWL      |
| DP180 (SEQ ID NO.:2)           | SSESFTLLEQWNNWKLQLAEQWLEQINEKHYLEDIS     |
| DP118 (SEQ ID NO.:10)          | QQLLDVVKRQQEMLRLTVWGTKNLQARVTAIEKYLKDQ   |
| DP125 (SEQ ID NO.:8)           | CGGNLLRAIEAQQHLLQLTVWGIKQLQARILAVERYLKDQ |
| DP116 (SEQ ID NO.:9)           | LQARILAVERYLKDQQQ                        |

FIG.1

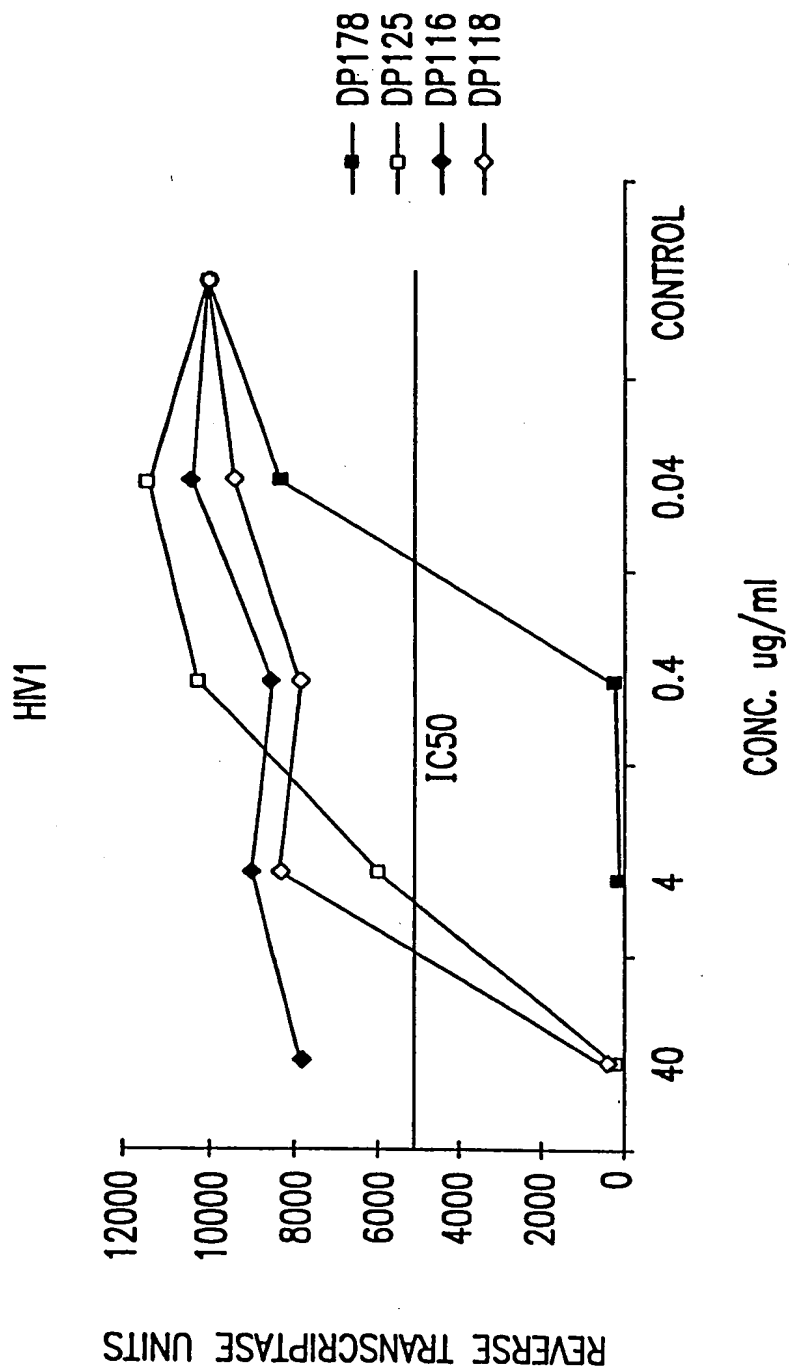


FIG.2

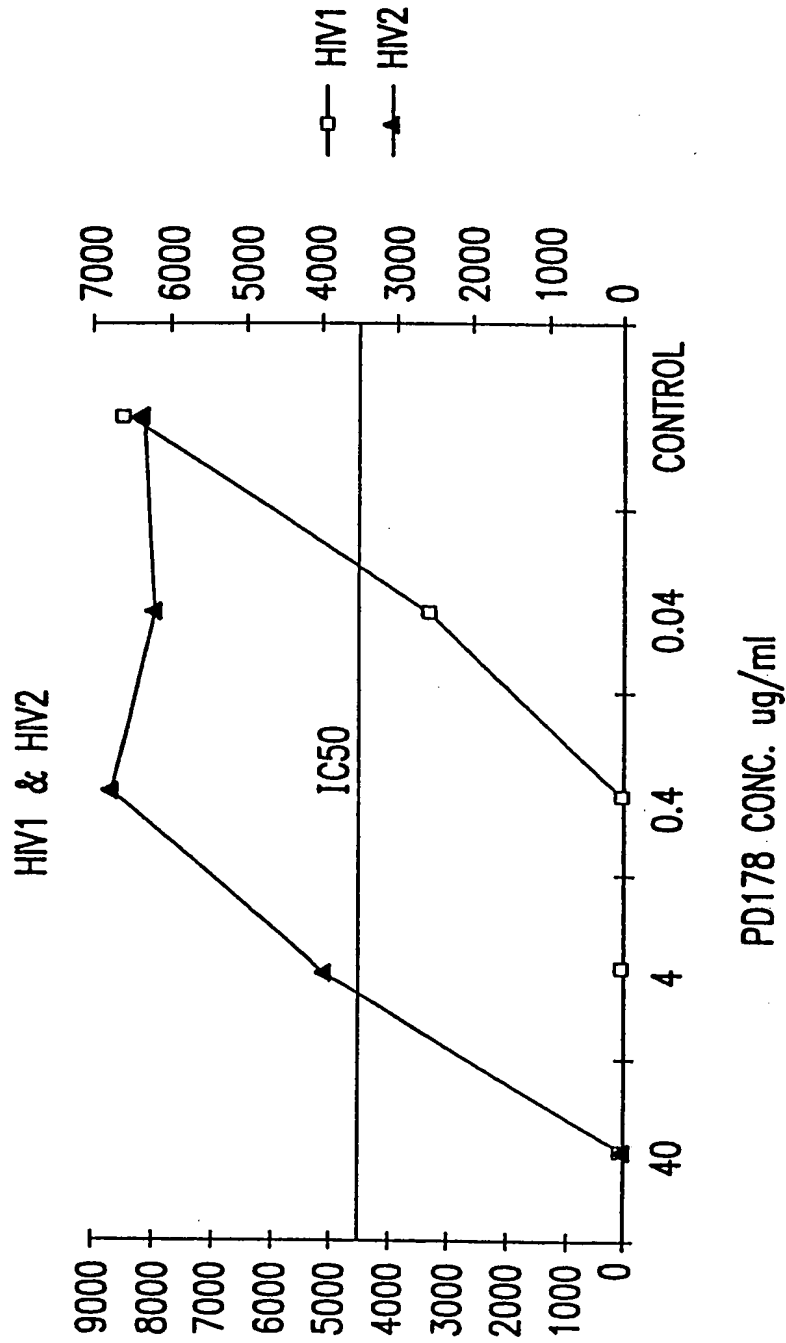


FIG.3



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Number of Syncytia/well: concentration in $\mu\text{g/ml}$ (micrograms/ml) |    |    |    |     |     |      |       |        |         |
|--|----|----|----|-----|-----|------|-------|--------|---------|
| DP178  | 10 | 5  | 1  | 0.2 | 0.1 | 0.05 | 0.025 | 0.0125 | Control |
| <u>Syncytia</u>  |    |    |    |     |     |      |       |        |         |
| HIV1LAT  | 0  | 0  | 0  | 0   | 0   | 0    | 0     | 0      | 67      |
| HIV1MN   | 0  | 0  | 0  | 0   | 0   | ND   | ND    | ND     | 34      |
| HIV1RF   | 0  | 0  | 0  | 0   | 0   | ND   | ND    | ND     | 65      |
| HIV1SF2  | 0  | 0  | 0  | 0   | 0   | ND   | ND    | ND     | 58      |
| DP125  | 10 | 5  | 1  | 0.2 | 0.1 | 0.05 | 0.025 | 0.0125 | Control |
| <u>Syncytia</u>  |    |    |    |     |     |      |       |        |         |
| HIV1LAT  | 0  | 0  | 54 | 69  | 80  | 75   | 79    | 82     | 67      |
| HIV1MN   | 0  | 0  | 30 | 36  | ND  | ND   | ND    | ND     | 34      |
| HIV1RF   | 0  | 0  | 67 | 63  | ND  | ND   | ND    | ND     | 65      |
| HIV1SF2  | 0  | 0  | 9  | 66  | ND  | ND   | ND    | ND     | 58      |
| DP116  | 10 | 5  | 1  | 0.2 | 0.1 | 0.05 | 0.025 | 0.0125 | Control |
| <u>Syncytia</u>  |    |    |    |     |     |      |       |        |         |
| HIV1LAT  | 75 | ND | ND | ND  | ND  | ND   | ND    | ND     | 67      |
| HIV1MN   | 35 | ND | ND | ND  | ND  | ND   | ND    | ND     | 34      |
| HIV1RF   | 81 | ND | ND | ND  | ND  | ND   | ND    | ND     | 65      |
| HIV1SF2  | 81 | ND | ND | ND  | ND  | ND   | ND    | ND     | 58      |

FIG.4A

| DP180           | 40 | 20  | 10  | 5   | 2.5 | 1.25 | 0.625 | 0.3125 | Control |
|-----------------|----|-----|-----|-----|-----|------|-------|--------|---------|
| <u>Syncytia</u> |    |     |     |     |     |      |       |        |         |
| HIV1LAT         | 50 | >45 | >45 | >45 | >45 | >45  | >45   | >45    | 58      |
| DP185           | 40 | 20  | 10  | 5   | 2.5 | 1.25 | 0.625 | 0.3125 | Control |
| <u>Syncytia</u> |    |     |     |     |     |      |       |        |         |
| HIV1LAT         | 0  | 0   | 0   | 0   | 0   | 0    | 0     | ND     | 60      |

FIG.4B



| <u>HIV1</u>  |    |    |    |     |      |       |        |         |
|--|----|----|----|-----|------|-------|--------|---------|
| Number of Syncytia/well: concentration in ng/ml (nanograms/ml)       |    |    |    |     |      |       |        |         |
| DP178  | 20 | 10 | 5  | 2.5 | 1.25 | 0.625 | 0.3125 | Control |
| <u>Syncytia</u>  |    |    |    |     |      |       |        |         |
| HIV1   | 0  | 0  | 0  | 0   | 0    | 14    | 20     | 48      |
| DP116  | 20 | 10 | 5  | 2.5 | 1.25 | 0.625 | 0.3125 | Control |
| <u>Syncytia</u>  |    |    |    |     |      |       |        |         |
| HIV1   | ND | 48 | ND | ND  | ND   | ND    | ND     | ND      |
| <u>HIV2</u>  |    |    |    |     |      |       |        |         |
| Number of Syncytia/well: concentration in $\mu$ g/ml (micrograms/ml) |    |    |    |     |      |       |        |         |
| DP178  | 20 | 10 | 5  | 2.5 | 1.25 | 0.625 | 0.3125 | Control |
| <u>Syncytia</u>  |    |    |    |     |      |       |        |         |
| HIV2   | 50 | 54 | 55 | 57  | 63   | 77    | 78     | 76      |
| DP116  | 20 | 10 | 5  | 2.5 | 1.25 | 0.625 | 0.3125 | Control |
| <u>Syncytia</u>  |    |    |    |     |      |       |        |         |
| HIV2   | ND | 58 | ND | ND  | ND   | ND    | ND     | ND      |

FIG.5



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

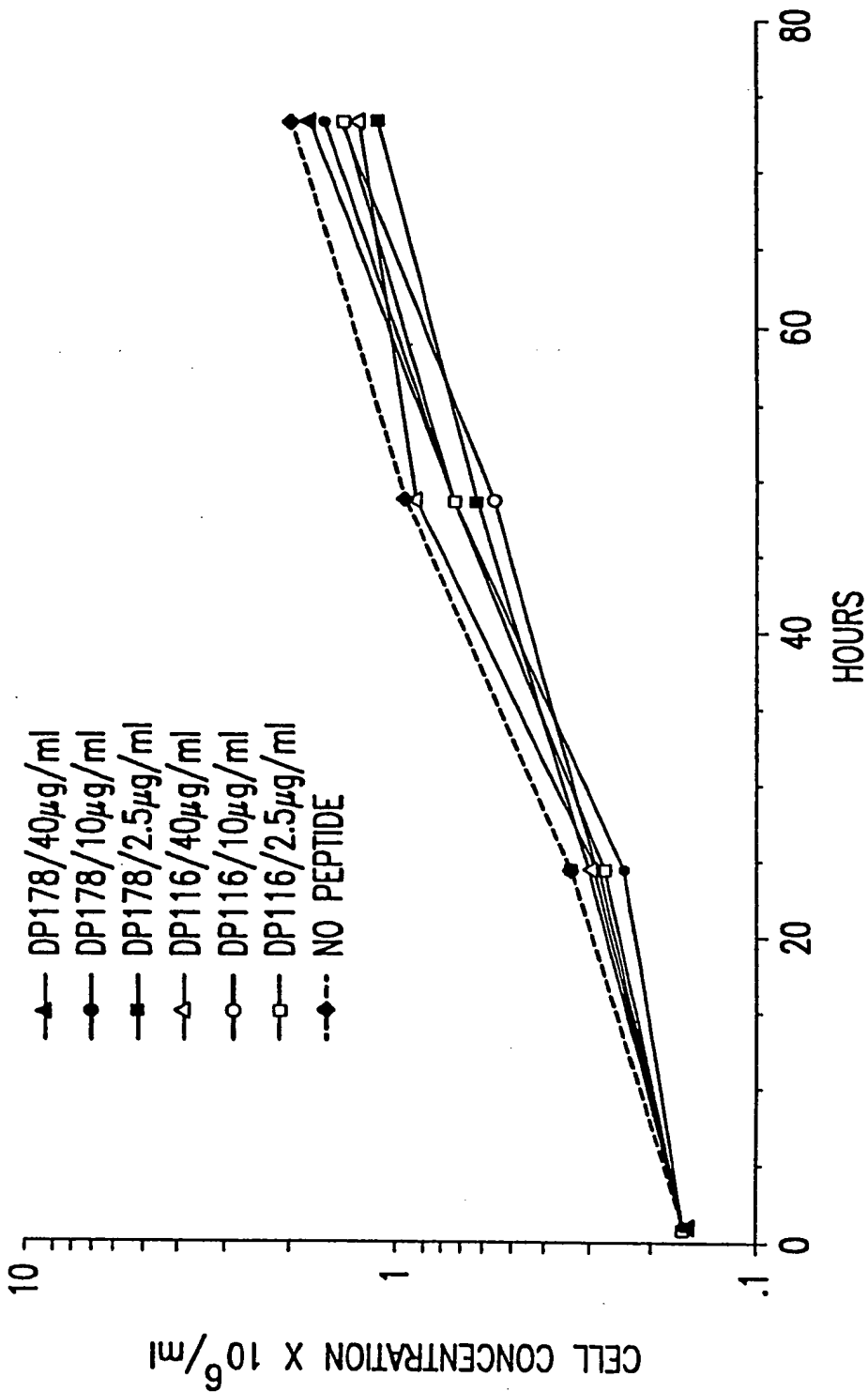


FIG.6



Docket No.: 7872-027-999

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Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

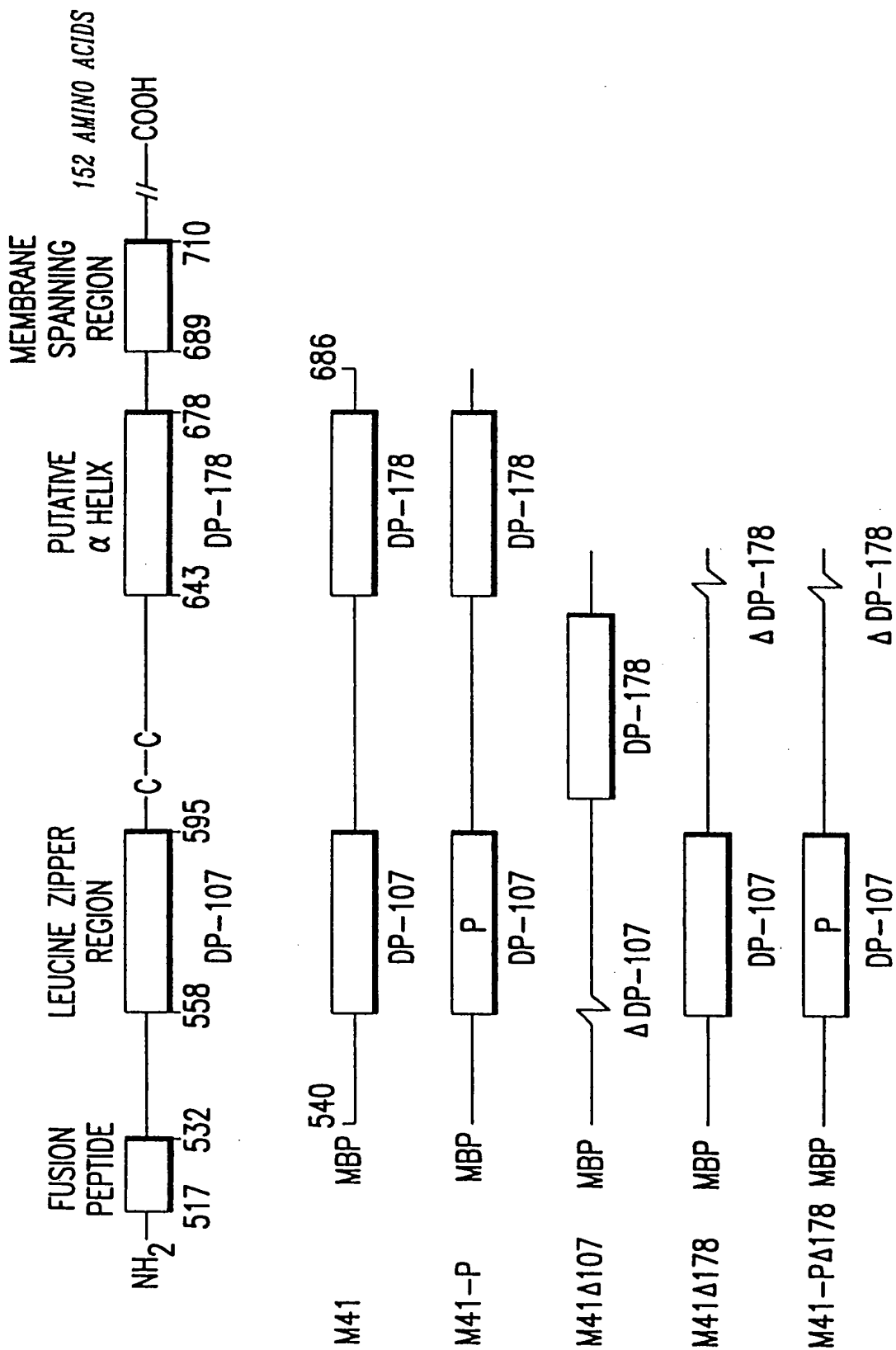


FIG.7

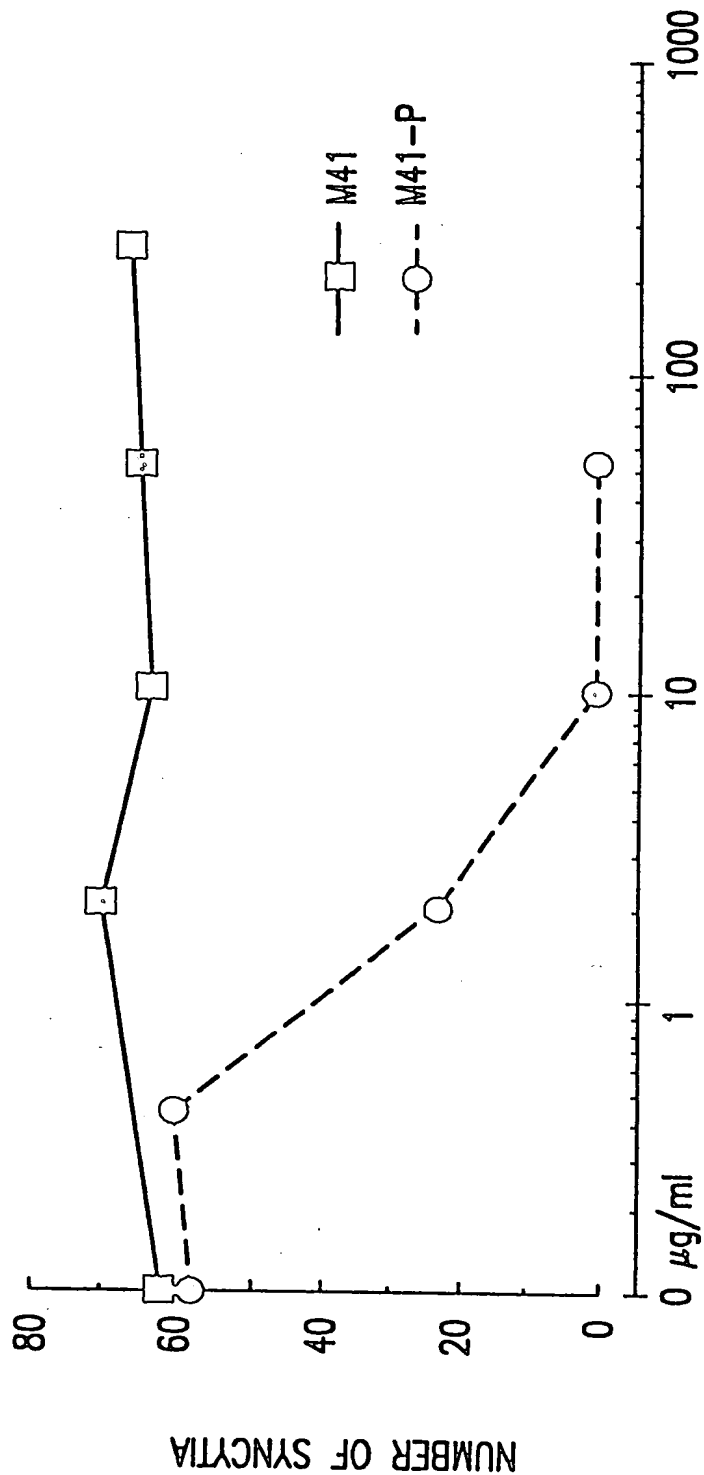


FIG. 8





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

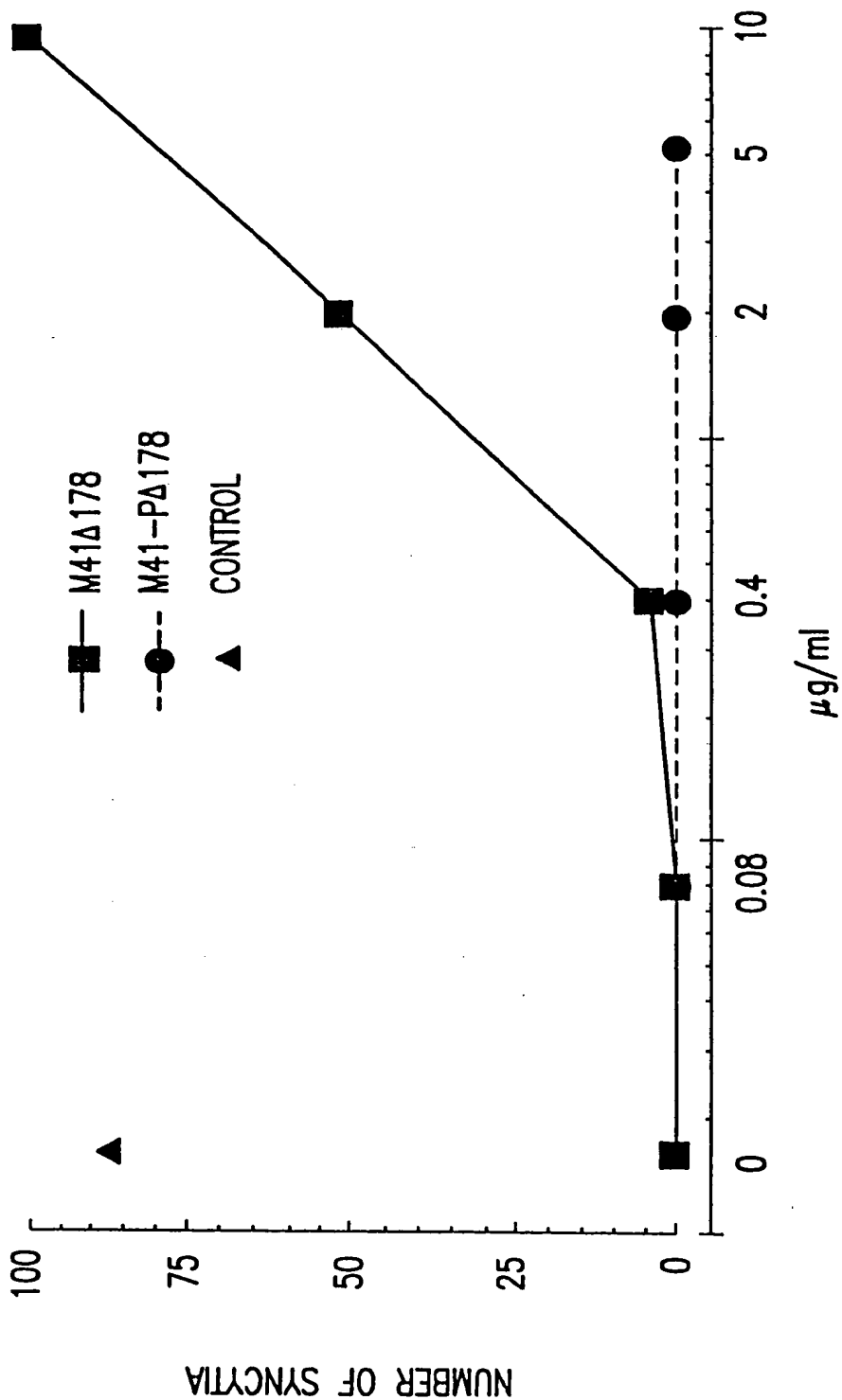


FIG.9

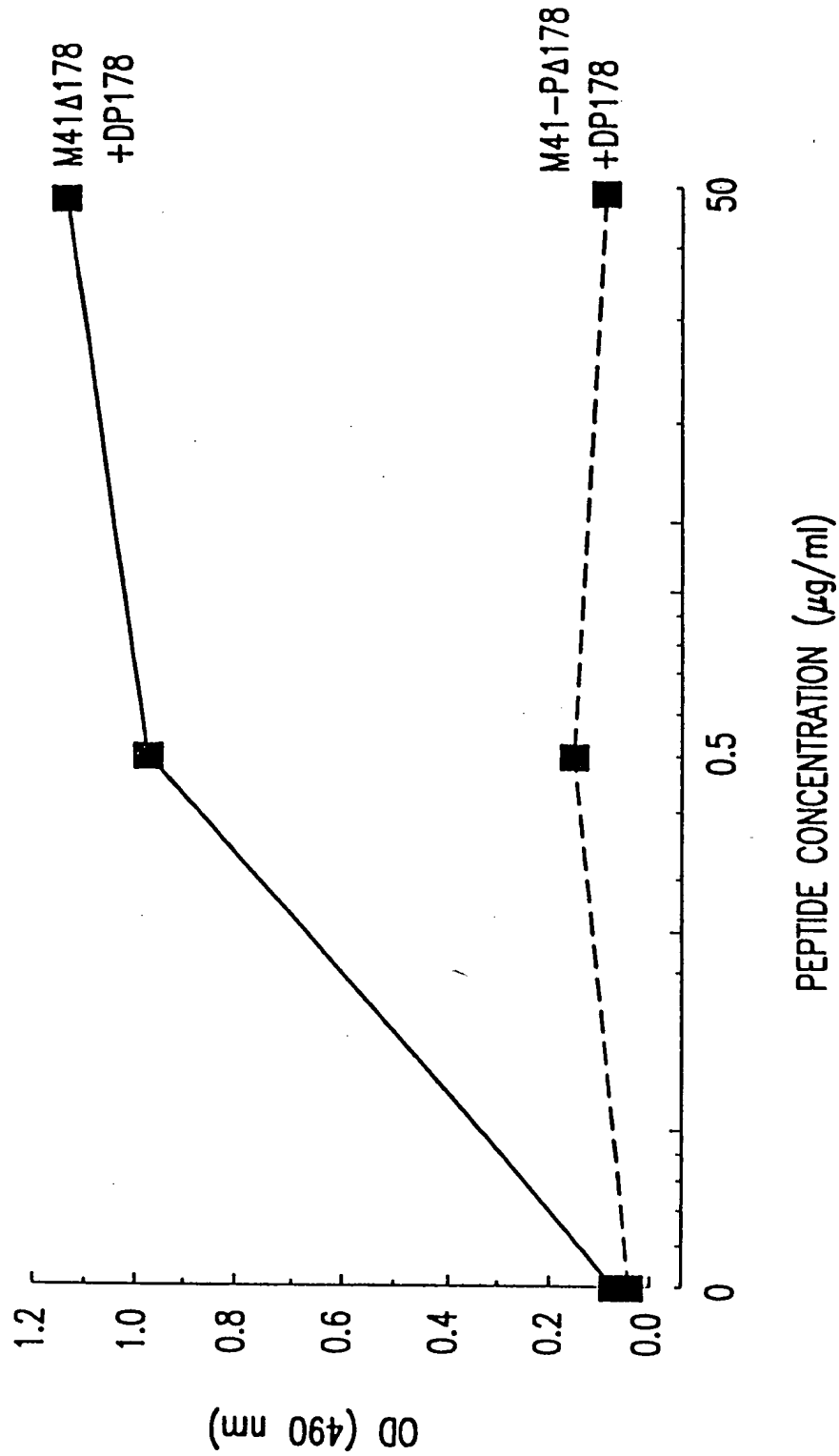


FIG.10

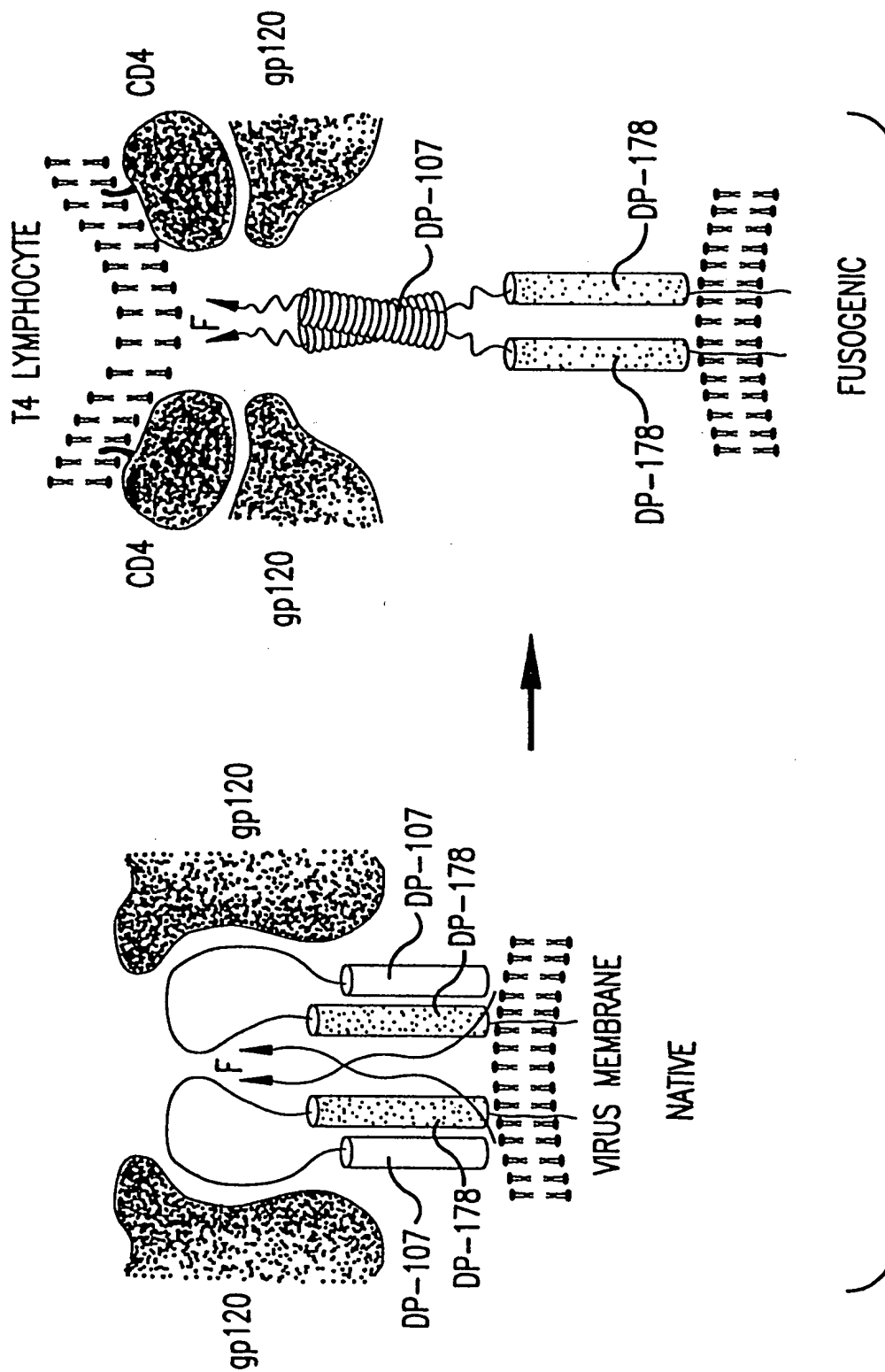


FIG.11A



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

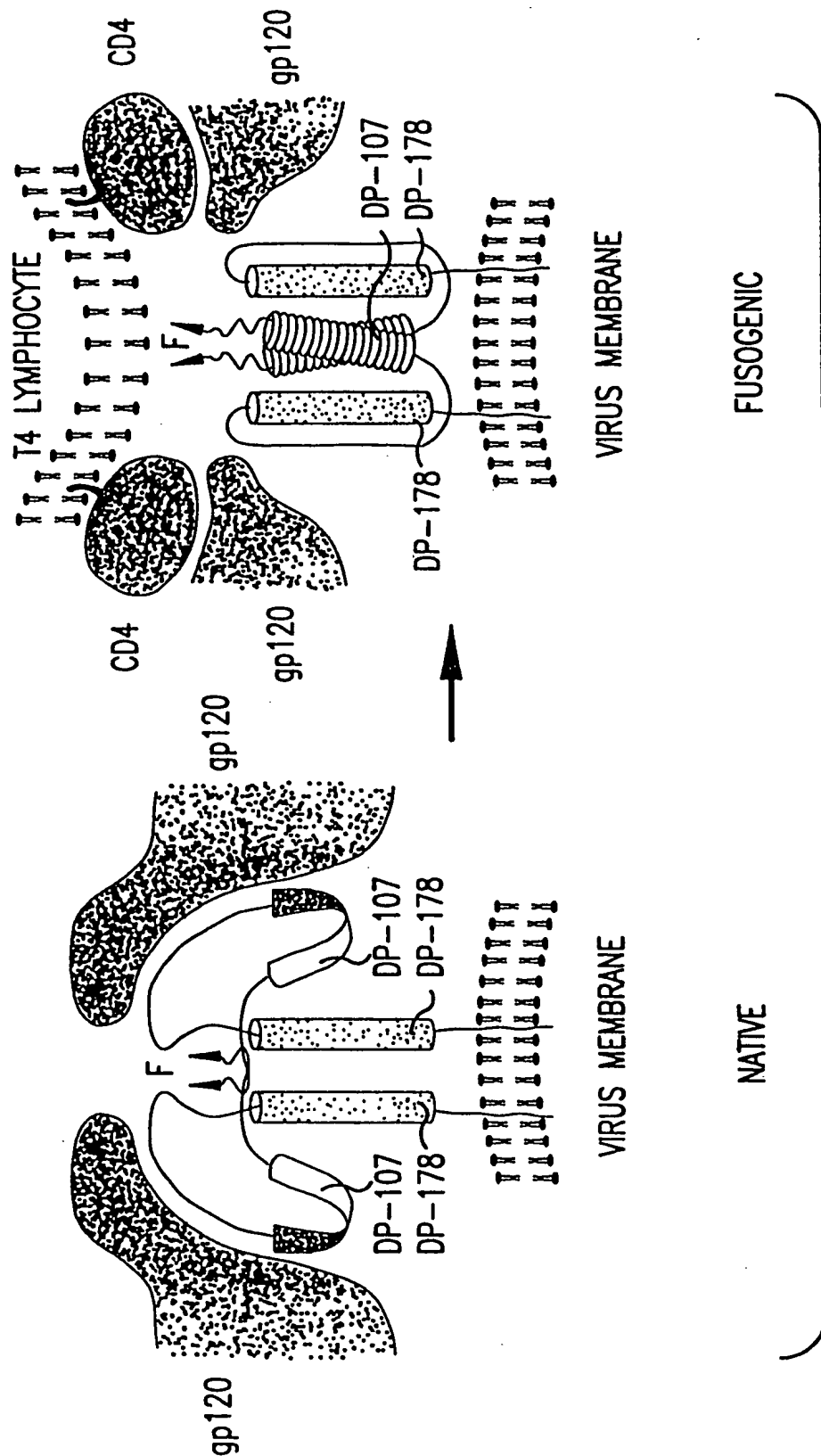


FIG.11B



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Sequence           | Positions |   |   |   |   |   |   |   |   |   |   |   | Motifs |   |   |                     |
|--------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|--------|---|---|---------------------|
|                    | A         | D | A | D | A | D | A | D | A | D | A | D | A      | D |   |                     |
| GCN4 (gcn4 yeast)  | M         | K | Q | L | E | D | K | V | E | E | L | L | S      | K | N | [LMNV] {CFGIMPVW}   |
| C-FOS (fos_human)  | T         | D | T | L | Q | A | E | T | D | Q | L | L | E      | D | K | [IKLT] {CFGIMPVW}   |
| C-JUN (tap1_human) | I         | A | R | L | E | E | K | V | K | T | L | L | K      | A | Q | [AILNV] {CFGHILPVW} |
| C-MYC (myo_human)  | E         | Q | K | L | I | S | E | E | D | L | L | L | E      | K | R | [ELR] {ACFGMPVW}    |
| FLU LOOP 36        | I         | E | K | T | N | E | K | F | H | Q | I | E | K      | E | F | [FILTV] {ACFLMPTVW} |

FIG.12



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Sequence                 | Positions |   |   |   |   |   |   |   |   |   |   |   | Motifs               |
|--------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|----------------------|
|                          | A         | D | A | D | A | D | A | D | A | D | A | D |                      |
| DP-107 (env_hv1bru) L1=D | N         | N | L | L | R | A | I | E | A | Q | H | L | [ILQT] {CFIMPSTY}    |
| DP-107 (env_hv1bru) L1=D | N         | N | L | L | R | A | I | E | A | Q | H | L | [ILQT] {CDFIMPST}    |
| DP-107 (env_hv1bru) L1=D | N         | N | L | L | R | A | I | E | A | Q | H | L | [ILQT] {CDFIMPST}    |
| DP-107 (env_hv1bru) L2=D | N         | N | L | L | R | A | I | E | A | Q | H | L | [EKLNV] {CDFKMPSTY}  |
| DP-107 (env_hv1bru) L2=D | N         | N | L | L | R | A | I | E | A | Q | H | L | [EKLNV] {CFKMPST}    |
| DP-107 (env_hv1bru) L2=D | N         | N | L | L | R | A | I | E | A | Q | H | L | [EKLNV] {CFKMPST}    |
| DP-178 (env_hv1bru) Y1=A | Y         | T | S | L | I | H | S | L | I | E | E | S | [EKLOY] {ACFGMPRWY}  |
| DP-178 (env_hv1bru) Y1=A | Y         | T | S | L | I | H | S | L | I | E | E | S | [EKLOWY] {CFGMPRVY}  |
| DP-178 (env_hv1bru) Y1=A | Y         | T | S | L | I | H | S | L | I | E | E | S | [EFKLOWY] {CFGMPRVY} |
| DP-178 (env_hv1bru) Y1=D | Y         | T | S | L | I | H | S | L | I | E | E | S | [EILNQS] {ACFGMPRWY} |
| DP-178 (env_hv1bru) Y1=D | Y         | T | S | L | I | H | S | L | I | E | E | S | [EILNQS] {CFGMPRVY}  |
| DP-178 (env_hv1bru) Y1=D | Y         | T | S | L | I | H | S | L | I | E | E | S | [EFILNQS] {CFGMPRVY} |

FIG.13





Docket No.: 7872-027-999

Serial No.: 08/487,355

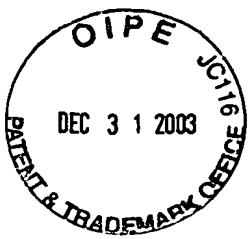
Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Sequence                | Positions |   |   |   |   |   |   |   |   |   | Parent Motif            | Hybrid Motif         |
|-------------------------|-----------|---|---|---|---|---|---|---|---|---|-------------------------|----------------------|
|                         | A         | D | A | D | A | D | A | D | A | D |                         |                      |
| GCN4 (gcn4 yeast)       | M         | K | Q | L | E | D | K | V | E | E | [LMNV] {CFGLMPTW}       |                      |
| DP-178 (env_hv1bru)Y1=A | Y         | T | S | L | I | H | S | L | I | E | [EKLQV] {ACFGMPRVWY}    | [EKLQV] {CFGLMPW}    |
| DP-178 (env_hv1bru)Y1=A | Y         | T | S | L | I | H | S | L | I | E | [EKLQW] {CFGLMPRVY}     | [EKLQW] {CFGLMP}     |
| DP-178 (env_hv1bru)Y1=A | Y         | T | S | L | I | H | S | L | I | E | [EFKLQW] {CFGLMPRVY}    | [EFKLQW] {CFGLMP}    |
| DP-178 (env_hv1bru)Y1=D | Y         | T | S | L | I | H | S | L | I | E | [EILNQSY] {ACFGMPRVWY}  | [EILNQSY] {CFGLMPW}  |
| DP-178 (env_hv1bru)Y1=D | Y         | T | S | L | I | H | S | L | I | E | [EILNQSWY] {CFGLMPRVY}  | [EILNQSWY] {CFGLMP}  |
| DP-178 (env_hv1bru)Y1=D | Y         | T | S | L | I | H | S | L | I | E | [EFILNQSWY] {CFGLMPRVY} | [EFILNQSWY] {CFGLMP} |

FIG.15





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Parent Motif          | Hybrid Motif         |
|-----------------------|----------------------|
| [ILOTV] {CDFIMPST}    |                      |
| [EKLQV] {CFKAPS}      |                      |
| [EFKLQWY] {CFGPRVY}   |                      |
| [EFILNDSWY] {CFGPRVY} | [EFIKLNDSTWY] {CFMP} |
| [FILTV] {ACFLMPTWY}   |                      |

| Sequence                 | Positions |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|
|                          | A         | D | A | D | A | D | A | D | A | D | A | D |
| DP-107 (env_hv1bru) L1=D | N         | N | L | L | R | A | I | E | A | Q | H | L |
| DP-107 (env_hv1bru) L2=D | N         | N | L | L | R | A | I | E | A | Q | H | L |
| DP-178 (env_hv1bru) Y1=A | Y         | T | S | L | I | H | S | L | I | E | S | Q |
| DP-178 (env_hv1bru) Y1=D | Y         | T | S | L | I | H | S | L | I | E | S | Q |
| FLU LOOP 36              | I         | E | K | T | N | E | K | F | H | Q | I | E |

FIG.16



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Sequence                 | Positions |      |      |      |      |      |      |     |      |      |     |   | Parent Motif           | Hybrid Motif           |
|--------------------------|-----------|------|------|------|------|------|------|-----|------|------|-----|---|------------------------|------------------------|
|                          | A         | D    | A    | D    | A    | D    | A    | D   | A    | D    | A   | D |                        |                        |
| GCN4 (gcn4 yeast)        | MKQL      | EDKV | EEEL | LSKN | YHL  | ENEV | ARL  | KKL |      |      |     |   | [LMNV] {CFGIMP}TW      |                        |
| DP-107 (env_hv1bru) L1=D | NNL       | LRAI | EAQ  | QHLL | LQLT | VWGI | KQL  | QAR | ILAV | ERYL | KDQ |   | [ILQTV] {CDFIMP}ST     |                        |
| DP-178 (env_hv1bru) Y1=A | YTS       | LSL  | IEES | QNQQ | QEQE | LELE | LDKW | ASL | WNWF |      |     |   | [EFKLCWY] {CFGMPRVY}   | [EFIKLANQTVWY] {CFMP}  |
| GCN4 (gcn4 yeast)        | MKQL      | EDKV | EEEL | LSKN | YHL  | ENEV | ARL  | KKL |      |      |     |   | [LMNV] {CFGIMP}TW      |                        |
| DP-107 (env_hv1bru) L1=D | NNL       | LRAI | EAQ  | QHLL | LQLT | VWGI | KQL  | QAR | ILAV | ERYL | KDQ |   | [ILQTV] {CDFIMP}ST     |                        |
| DP-178 (env_hv1bru) Y1=D | YTS       | LSL  | IEES | QNQQ | QEQE | LELE | LDKW | ASL | WNWF |      |     |   | [EFILNOSWY] {CFGMPRVY} | [EFFILNQRSTVWY] {CFMP} |
| GCN4 (gcn4 yeast)        | MKQL      | EDKV | EEEL | LSKN | YHL  | ENEV | ARL  | KKL |      |      |     |   | [LMNV] {CFGIMP}TW      |                        |
| DP-107 (env_hv1bru) L2=D | NNL       | LRAI | EAQ  | QHLL | LQLT | VWGI | KQL  | QAR | ILAV | ERYL | KDQ |   | [EKLNV] {CFKQPS}       |                        |
| DP-178 (env_hv1bru) Y1=A | YTS       | LSL  | IEES | QNQQ | QEQE | LELE | LDKW | ASL | WNWF |      |     |   | [EFKLCWY] {CFGMPRVY}   | [EEKLANQVWY] {CFMP}    |
| GCN4 (gcn4 yeast)        | MKQL      | EDKV | EEEL | LSKN | YHL  | ENEV | ARL  | KKL |      |      |     |   | [LMNV] {CFGIMP}TW      |                        |
| DP-107 (env_hv1bru) L2=D | NNL       | LRAI | EAQ  | QHLL | LQLT | VWGI | KQL  | QAR | ILAV | ERYL | KDQ |   | [EKLNV] {CFKQPS}       |                        |
| DP-178 (env_hv1bru) Y1=D | YTS       | LSL  | IEES | QNQQ | QEQE | LELE | LDKW | ASL | WNWF |      |     |   | [EFILNOSWY] {CFGMPRVY} | [EFFIKLANQSVWY] {CFMP} |

FIG. 17



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| Sequence                | A | D | A | D | A | D | A | D | A | D | A | D | A | D | A | D | A | D | Parent Motif | Hybrid Motif |   |   |   |   |   |   |   |                        |                      |   |   |   |   |   |   |   |   |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|--------------|---|---|---|---|---|---|---|------------------------|----------------------|---|---|---|---|---|---|---|---|
| GCN4 (gcn4 yeast)       | M | K | Q | L | E | D | K | V | E | E | L | S | K | N | Y | H | L | E | N            | E            | V | A | R | L | K | K | L | [LMNV] {CFGIMPTW}      |                      |   |   |   |   |   |   |   |   |
| DP-107 (env_hv1bru)L1=D | N | N | L | L | R | A | I | E | A | Q | H | L | L | Q | L | T | V | W | G            | I            | K | Q | L | Q | A | R | I | L                      | A                    | V | E | R | Y | L | K | D | Q |
| DP-107 (env_hv1bru)L2=D | N | N | L | L | R | A | I | E | A | Q | H | L | L | Q | L | T | V | W | G            | I            | K | Q | L | Q | A | R | I | L                      | A                    | V | E | R | Y | L | K | D | Q |
| DP-178 (env_hv1bru)Y1=A | Y | T | S | L | I | H | S | L | I | E | S | Q | N | Q | Q | E | K | N | E            | Q            | E | L | L | E | L | D | K | W                      | A                    | S | L | W | N | W | F |   |   |
| DP-178 (env_hv1bru)Y1=D |   |   |   |   | Y | T | S | L | I | H | S | L | I | E | S | Q | N | Q | Q            | E            | K | N | E | Q | E | L | L | D                      | K                    | W | A | S | L | W | N | W | F |
| C-FOS (fos_human)       | T | D | T | L | Q | A | E | T | D | Q | L | E | D | E | K | S | A | L | Q            | T            | E | I | A | N | L | L | K | E                      | [IKLT] {CFGHMPRVWY}  |   |   |   |   |   |   |   |   |
| C-JUN (tap1_human)      | I | A | R | L | E | E | K | V | K | T | L | K | A | Q | N | S | E | L | A            | S            | T | A | N | M | L | R | E | Q                      | [AILNV] {CDFGHILPWY} |   |   |   |   |   |   |   |   |
| C-MYC (myo_human)       | E | Q | K | L | I | S | E | E | D | L | L | E | K | R | R | E | Q | L | K            | H            | K | L | E | Q | L | R | N | S                      | [ELR] {ACFGMPVWY}    |   |   |   |   |   |   |   |   |
| FLU LOOP 36             | I | E | K | T | N | E | K | F | H | Q | I | E | K | E | F | S | E | V | E            | G            | R | I | Q | D | L | E | K | Y                      | [FILTV] {ACFLMPTW}   |   |   |   |   |   |   |   |   |
|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              |              |   |   |   |   |   |   |   | [AEFIKLMNQRSTWY] {CFP} |                      |   |   |   |   |   |   |   |   |
|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              |              |   |   |   |   |   |   |   | [COGHP] {CFP}          |                      |   |   |   |   |   |   |   |   |
|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              |              |   |   |   |   |   |   |   | =                      |                      |   |   |   |   |   |   |   |   |

FIG.18



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

P-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(1)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(2)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(3)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(4)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(5)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(6)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(7)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(8)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(9)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(10)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-X(1,12)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-X(13,23)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]

FIG.19



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion                    ♡ ALLMOTIS ♡  
Peptide                    ♣ 107x178x4 ♣  
♡ ..... ELGELG    A AGSTMGARSM TLTVQARQ   ♣ LLSGIVQQQ   DP107-NNL

LRAIEAQOHL LOLTVWGIKO LOARILAYER YLKDO-DP107   QLLG ♣ ♡ I WGC

                                 ♣ 107x178x4 ♣  
                                 ♡ ALLMOTIS ♡                    \*LVS Coiled-Coil\*  
SGKLICT TAVP ♡ WNASWS NKSLEQIWNN MTWM \*E ♣ WDRELNN   DP178-

YTSLIHSL IEESONQOEK NEOELLELDK\*   WASLWNWT-DP178   NI

                         ♣ Transmembrane Region ♣  
TNWLWYIK ♣ ♣ IFIMIVGGLVGLRIVEAVLSIV   NRV RQGYS ♡ PL

                         ♣ P23LZIPC ♣  
SFQTHLPTPR GPDR ♣ PEGIEE EGGERDRDRS IRLVNGSLAL IWDDLRLSL ♣ CL

                 ♡ ALLMOTIS ♡                    ♣ 107x178x4 ♣  
F ♡ SYHRLDLL LIVTRIVELL GRGW ♣ EALKY WYNLLQYWSQ

ELKNSAYSLL NAT ♣   AIAVAEG TDRVIEVVQG A ♡   CRAIRHIPR

RIRQGLERIL L

FIG. 20



Fusion                      ♥ ALLMOTIS ♥  
Peptide                      ♣ 107x178x4 ♣  
♥.....ELGEL      LGVGS AIAS GVA      ♣ YSKVLHL EGEVNIKSA

   ♣ P1&12LZIPC ♣  
LLSTNKAVYS LSNQVSVLTS KYLDLKNYID KQ ♥ LL      ♣ PIVNKQ

   ♣ 107x178x4 ♣  
SC ♣ SISNIETV I ♣ EFQOKNNRLLETTREESYNAG ♣ VITPVSTMLTNSSELLSL

   ♣ P1&12LZIPC ♣  
   ♥ ALLMOTIS ♥  
INDM ♣ PI ♥ TNDQ KKLMSNNVQI V ♣ RQQSYSI ♣ MS IIKEEVLAYV

VQ ♥ LPLYGVID TPCWKLHTSP LCTTNTKEGS NICLTRTDRG WYCDNAGSVS

FFPQAETCKV QSNRVFCDTM NSLTLPSEIN LCNVDIFNPK

YDCKIMTSKT DVSSSVITSL GAIVSCYGKT KCTASNKNRG

IIKTFSNGCDYVSNKGMDTV SVGNTLYYVN KQEGKSLYVK G

   ♣ P7, 12, & 23LZIPC ♣  
   ♣ 107x178x4 ♣                      ♥ ALLMOTIS ♥  
EPIINFYDPLVF ♣ PSDE ♣ EDASISQVNEKINQSLAF ♥ I ♣ RKSDELL ♣

   ♦ Transmembrane Region ♦  
INYNNA ♣ GK STTN ♦ IMITTUUVIIVILLS LIAVGLLLY ♥ C ♦

KARSTPVTLS KDQLSGINNI AFSN

FIG. 21



Fusion  
Peptide      ♥ALLMOTIS♥      ♣107x178x4♣  
.....ELGELG      ♥AAGTA MGAAA      ♣TALTYOSQHLLAGILQQOKNLLAAV

♣107x178x4♣  
EAQ♣ QQM ♣LKLTIWGVKNLNARVTALEKYLEDOARLN♣ AWG♥ CA

\*LVS Coiled-Coil\*  
♥ALLMOTIS♥      ♣107x178x4♣  
WKQVCHTTVP WQWNNRTPDW ♥NNMT \*WLE ♣WERQISYLEGNIT

♣107x178x4♣  
TOLEEARAQEEKNLD♣ AXQKLSS\* WSDFWSW♥ FDF ♣SKWLN ♦ILK

♦Transmembrane Region♦  
IGELDYLGIGLRLLYTY♦ XS♣ CIARVRQGYSPSPQHHP WKGQPDNAEG

PGEGGDKRKN SSEPWQKESG TAEWKSNEWCK RLTNWCSISS IWLYNS

♥ALLMOTIS♥  
♥CLTL LVHLRSAFQY IQYGLGELKA AAQEAVVALA RLAQNAGYQIWL♥

ACRSAYRA IINSPRRVRQ GLEGILN

FIG. 22



Fusion Peptide      ♡ALLMOTI5♡      ♣107x178x4♣  
.....EAG      ♡VYL      AGVALGVATA AQITAGIALHQ      ♣\*LVS Coiled-Coil\*  
   ♣\*SNLNAQAIQ

SLRTSLEQSNKAIEEIREATOETVIA\* YQGVQDY♣ VNNEL♡ VP

   ♡ALLMOTI5♡  
   ♣107x178x4♣  
   ♣P6 & 12LZIPC♣  
AMQHMSCELVGQRLGLRLLRYYTELLSIFGPSLRD ♣PISA ♣♡EISIQALIIYAL

GGEIHKILEKLGYSGSD♣ MAILES RGIKTKI♡ THVDLP GKF ILSISY

♣P1 & 12LZIPC♣  
♣PTLSEVKGVIVHRLEAV♣ SYNIGSQEWYTTVPRYIATNGYLISNFDDESSCVFVS

ESAICSQNSL YPMSPLLQQC IRGDTSSCAR TLVSGTMGNK FILSKGNIVA

NCASILCKCY STSTIINQSP DKLLTFIASD TCPLVEIDGA TIQVGGRQYP

                                 ♣LVS Coiled-Coil\*  
                                 ♡ALLMOTI5♡  
                 ♣P12 & 23LZIPC♣  
DMVYEGKVAL G ♣PAISLD ♡RL\*DYGTNLGNALKKLDDAKVLI♣

                 ♣Transmembrane Region♣  
DSS♣ NQILETVRRS♡\* SFN      ♣EGSLLSYPILSC TAL ALLLLIYCC♣

K RRYQQTLKQH TKVDPAFKPD LTGTSKSYVR SL

FIG. 23





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion ♥ ALLMOTIS ♥  
Peptide ♣ 107x178x4 ♣  
♥ ..... EIGAI IGSVALGVA TAAQITAASA LIQANQNAAN ♣ ILRLKESITA

TIEAVHEVTDGLSQLAVA ♣ VG KM ♥ QQFVNDQFNNTAQELDCIKITQQV

♥ ALLMOTIS ♥  
GVELNLYLTELT TV FGPQITSPAL ♥ TQLTIQALYNAGGNMDYLLTKLGVG

♣ P1 & 12LZIPC ♣  
NNQLSSLIGSGLIT GN ♥ ♣ P1LYDSQT QLLGIQVTLP SVGNLNNMRATYLET

LSVST TKGFASALVP KVVVTQVGSVI EELDTSYCIE TDL DLYCTRI VTFPMSPGIY

SCLNGNTSAC MYSKTEGALT TPYMTLKGSV IANCKMTTCR CADPPGIISQ

♥ ALLMOTIS ♥  
♣ 107x178x4 ♣  
NYGEAVSLID RHSCN ♣ ♥ VLSLD GITRLSGEF DATYQKNISI LDSQVIVTG

\*LVS Coiled-Coil\*  
\*NLDISTELGNV NNSISNALDK LEESNSKLDK VNVKLTSTSA ♣ Trans-  
♣ LIT\* YIA

membrane Region ♣  
LT AISLVCGILSLV ♥ ♣ LACYLMY ♣ KQKAQQKTLLWLGNNNTLGQMRATTKM

FIG. 24



Fusion                    ♡ALLMOTIS♡  
Peptide           ♡107x178x4♡    \*LVS Coiled-Coil\*  
.....EEGGY    ♡IG ♡TIALG \*YATSAQITAAVALVEAKQARSDIEKLKE

AIRDTNKAVQSVQSSIGNLIVAIKSVQ\* DYVNKE♡ ♡ IVPSIARLGCEAAG

♡ALLMOTIS♡  
♡107x178x4♡  
LQLGIALTQH ♡♡YSELTNIEGDNIGSLQEKGIKLOGIASLYRTNTE♡ ♡

♡P5 & 12LZIPC♡  
IFTTSTVDKYDIYDLLFTESIKVRVIDVDLNDYSITLQVRL ♡PLLTRLNTQIYR

VDSISYNI♡ QNREWYI♡ PLPSHIMTKGAFLGGADVKECIEAFSSYIC

PSDPGFVLNHEMESCLSGNISQCPRTVVKSDIVPRYAFVNGGGVVANCITT

TCTCNGIGNRINQPPDQGVKIITHKECNTIGINGMLFNTNKEGTLAFYTP

♡ALLMOTIS♡  
♡107x178x4♡  
♡P6 & 23LZIPC♡  
NDITLNNSVALD ♡PIDI ♡SIELN ♡KAKSDLEESKEWI♡ RRSNOKL♡

♦Transmembrane Region♦  
DSIGNWHQSSTI ♦IIIV♡ LIMIIILFIINYTII♦ II~~AV~~KYY♡ R  
IQKRN~~R~~VDQN DKPYVL~~T~~NK

FIG. 25



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion

Peptide

.....GLEGAI AGFIENGWEGMIDGWYGFRIHQNSEGTG

♣107x178x4♣

♥ALLMOTIS♥

\*LVS Coiled-Coil\*

\*Q ♥AADLKST ♣QAAIDQINGKLN RVIEKTNEKTHQIEKEESEVEGRIQ

DLEKYVEDTKIDL\* WSYNAELLYVALENQHTI♣ DLT♥ DSEMKNKLFETR

RQLRENAEEMGNGCFKIYHKCDNACIESIRNGTYDHDVYRDEALNNRFQIKG

VELKSGYKDWILWISFAISCFLLCVVLLGFIMWACQRCNIRCNICI

FIG. 26

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

[illegible]

**FIG. 27A**



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|  |        | FUSION ARRAY |     |
|--|--------|--------------|-----|
|  |        | PURIFIED     |     |
|  |        | IC50 (XTT)   |     |
|  | RSV F2 | AV           | CD  |
|  | T-142  | ++           | ++  |
|  | T-143  | ++           | +++ |
|  | T-144  | +            | ++  |
|  | T-145  | ++           | +   |
|  | T-146  | -            | -   |
|  | T-147  | -            | -   |
|  | T-148  | -            | -   |
|  | T-149  | -            | -   |
|  | T-150  | -            | +   |
|  | T-151  | +/-          | +   |
|  | T-152  | +/-          | ++  |
|  | T-153  | -            | +   |
|  | T-154  | +/-          | ++  |
|  | T-155  | -            | +   |

FIG.27B

[illegible]

[illegible]

FIG. 27D



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|  |       |     | FUSION ASSAY         |     |
|--|-------|-----|----------------------|-----|
|  | RSV   |     | PURIFIED             |     |
|  |       | AV  | IC50 XT1             | CD  |
|  | F-107 |     | ( $\mu\text{g/ml}$ ) |     |
|  | T-120 | -   | 204                  | -   |
|  | T-121 | -   | 354                  | -   |
|  | T-122 | -   | 347                  | -   |
|  | T-123 | +/- | 126                  | -   |
|  | T-124 | +   | 95                   | -   |
|  | T-125 | +   | 84                   | -   |
|  | T-126 | +   | 89                   | -   |
|  | T-127 | +   | 89                   | -   |
|  | T-128 | -   | 206                  | -   |
|  | T-129 | -   | 343                  | -   |
|  | T-130 | -   | 177                  | -   |
|  | T-131 | +/- | 118                  | -   |
|  | T-132 | -   | 272                  | -   |
|  | T-133 | +/- | 307                  | -   |
|  | T-134 | +/- | 187                  | -   |
|  | T-135 | +   | 60                   | -   |
|  | T-136 | -   | 194                  | -   |
|  | T-137 | +   | 99                   | -   |
|  | T-138 | ++  | 38                   | -   |
|  | T-139 | +   | 86                   | +/- |
|  | T-140 | -   | 160                  | +/- |
|  | T-141 | -   | 204                  | +/- |

FIG.27E





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| RSV   | PEPTIDE#                                | AVG. IC50<br>(XTT) µg/ml |
|-------|---|--------------------------|
| T-12  | VVSLSNGVSVLTSTSKVLDLKNYIDKQLL           | >500                     |
| T-13  | LLSTNKAVVVSLSNGVSVLTSTSKVLDLKNY         | >500                     |
| T-15  | VLHL EGEVVKIKSALLSTNKAVVVSLSNG          | >500                     |
| T-19  | LLSTNKAVVVSLSNGVSVLTSTSKVLDLKNY         | >500                     |
| T-28  | ASGVAVSKVLHL EGEVVKIKSALLSTNKAVVVSLSNGV | >500                     |
| T-29  | SGVAVSKVLHL EGEVVKIKSALLSTNKAVVVSLSNG   | 327                      |
| T-30  | VLHL EGEVVKIKSALLSTNKAVVVSLSNGVSVLTISK  | 328                      |
| T-69  | VVISLSNGVSVLTSTSKVLDLKNYIDKQLL          | 292                      |
| T-70  | VNKIKSALLSTNKAVVVSLSNGVSVLTISK          | 349                      |
| T-66  | NDQKKLMSNNVQIVRQSYSIMSIKEE              | >500                     |
| T-576 | SIISNIETVIEFQQKNRLLLEITREFSVNAGVTTTPVS  | >100                     |

FIG.27F

[illegible]

**FIG. 28A**



Docket No.: 7872-027-999

Serial No.: 08/487,355

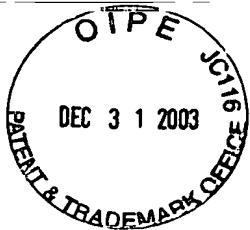
Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|        |     | FUSION ASSAY               |     |
|--------|-----|----------------------------|-----|
|        |     | PURIFIED                   |     |
|        |     | IC50                       |     |
| RSV    | AV  | ( $\mu\text{g/ml}$ ) (XTT) | CD  |
| T-67   | ++  | 37                         | +/- |
| F1-178 |     |                            |     |
| T-104  | +   | 95                         |     |
| T-105  | +   | 86                         |     |
| T-106  | -   | 186                        |     |
| T-107  | ++  | 20                         |     |
| T-108  | +++ | 6                          |     |
| T-109  | +++ | 8                          |     |
| T-110  | ++  | 30                         |     |
| T-111  | +++ | 9                          |     |
| T-112  | +++ | 8                          | +/- |
| T-113  | +++ | 6                          | +/- |
| T-114  | +++ | 5                          | +/- |
| T-115  | +++ | 6                          | +/- |
| T-116  | +++ | 9                          | +/- |
| T-117  | +++ | 14                         | +/- |
| T-118  | +++ | 5                          | +/- |
| T-119  | +++ | 6                          | +/- |
|        |     |                            |     |
|        |     |                            |     |
|        |     |                            |     |
|        |     |                            |     |

FIG. 28B





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| HPV3 DP107-LIKE REGION(F1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| HPF3 107                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 157                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 158                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 159                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 160                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 161                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 162                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 163                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 164                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 165                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 166                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 167                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 168                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 169                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 170                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 171                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 172                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 173                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 174                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T-40                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 175                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 176                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 177                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 178                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 179                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 181                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 182                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 183                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 184                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 185                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 186                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 187                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 188                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

FIG. 29A

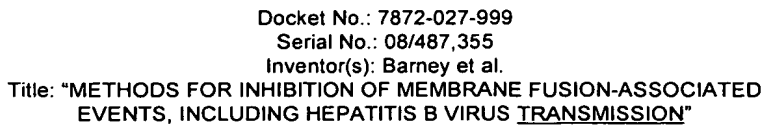


FIG. 29B



Docket No.: 7872-027-999

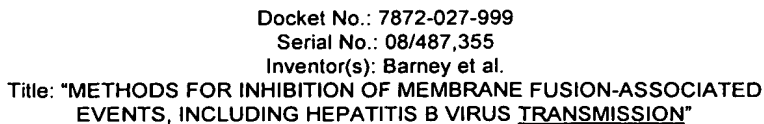
Serial No.: 08/487,355

Inventor(s): Barney et al.

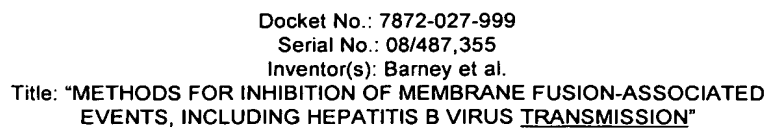
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|           |     | IC50     |     |
|-----------|-----|----------|-----|
| HPIV3 107 | AV  | (UG/ML)  | CD  |
| 157       | -   | 574*     | +   |
| 158       | -   | 146*     | +   |
| 159       | -   | 707*     | +   |
| 160       | -   | 536*     | +   |
| 161       | -   | 390*     | +   |
| 162       | -   | 403*     | +   |
| 163       | -   | 123*     | +   |
| 164       | -   | 512.067* | +++ |
| 165       | -   | 742*     | -   |
| 166       | -   | 540*     | -   |
| 167       | -   | 215*     | -   |
| 168       | -   | 680*     | -   |
| 169       | -   | 137*     | -   |
| 170       | -   | 456*     | -   |
| 171       | -   | 437*     | -   |
| 172       | +   | 63*      | -   |
| 173       | ++  | 30*      | -   |
| 174       | +   | 56*      | ++  |
| T-40      | +/- |          | +++ |
| 175       | +/- | 110*     | ++  |
| 176       | -   | 197.75*  | +++ |
| 177       | -   | 350*     | +   |
| 178       | ++  | 30*      | +   |
| 179       | -   | 295*     | -   |
| 180       | -   | 732*     | -   |
| 181       | -   | 929*     | -   |
| 182       | -   | 707*     | -   |
| 183       | -   | 218.50*  | ++  |
| 184       | +   | 67.8*    | +++ |
| 185       | -   | 542*     | -   |
| 186       | -   | 613*     | -   |
| 187       | -   | 152*     | -   |
| 188       | -   | 669*     | -   |

FIG.29C

[illegible]





[illegible]

**FIG. 30A**



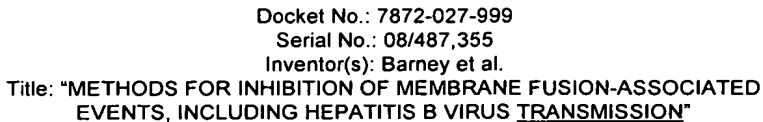
[illegible]

FIG. 30C



FUSION ♥ALLMOTIS♥  
PEPTIDE ♠107x178x4♠  
.....RNKRGVFVLGFLGFLATAGSAMGAAS ♠♥ XXXXAQSRTLLAGIVQOOQQO

LLDVYKROOELLRLTYWGTKNLOTRVTAIEKYLKDQAOL♠NAWG♥ CAF

♥ALLMOTIS♥  
\*LVS PREDICTED COILED-COIL  
RQVCHTTVPWPNASLTPDW \*NND ♥TWQEWERKVDFFLEENITALLEEAIQQ

♠107x178x4♠  
EKNMY ♠ELOKLNSWD\* VF♥ GNXXXXXXXXXXXXXXXXXXXXXXXXXXXXX♠

IYIVMLAKLRQGYRPVFSSPPSYFQXTHTQQDPALPTREGKEGDGGEGGGNSSWP  
WQIEYIHF

FIG. 31



MTRRRVLSVVLLAALACRLGAQTPEQPAPPATTVQPTATRQQTSPFRVCELSSHGDLFRFSSD

♠ 107x178x4♠

IQCPSTGTRENTHTGLLMVFKDNIIPYSF ♠ KVRSYTKIVTNILYNGWYADSVTNRHE♠

EKFSVDSY ETDQMDTIYQ CYNVAKMTKD GLTRVYVDRD GVNITVNLKP TGGLANGVRR  
YASQTELYDA PGWLIWYRT RTTVNCLITD MMAKSNSPFD FFVTTTGQTV EMSPFYDGKN  
KETFHERADS FHVRTNYKIV DYDNRGTNPQ GERRAFLDKG TYTLSWKLEN RTAYCPLQHW  
QTFDSTIATE TGKSIHFVTD EGTSSFVTNT TVGIELPDAF KCIEEQVNKT HEKYEAVQD  
RYTKGQEAIT YFITSGGLLL AWLPLTPRSL ATVKNLTELT TPTSSPPSSP SPPAPSAARG  
STPAAVLRRR RRDAGNATTP VPPTAPGKSL GTLNNPATVQ IQFAYDSLRR QINRMLGDLA  
RAWCLEQKRQ NMVLRELTKI NPTTVMSSIIY GKAVAAKRLG DVISVSQCVP VNQATVTLRK  
SMRVPGSETM CYSRPLVSFS FINDTKTYEG QLGTONEIFL TTKMTEVCQA TSQYYFQSGN

♠ 107x178x4♠

EIHVYNDYHH FKTIELDGIA TLQTFISLNT ♠ SLIENIDFASLELYSRDEQRASNVFD \*LE♠

\*LVS PREDICTED COILED COIL\* TM Potential  
GIFREYNFQAQNIAGLRKDLDNAVS\* GRNQ FVDGLGELMDSLGSVG QSITN

♣P12LZIPC♣

TM Potential TM Potential  
LVSTVGGLFSSLVSGFISF FK N ♣PFGGMLILVLVAGVVILVISL♣ TRRTRQMS

QQPVQMLYPG IDELAQQHAS GEGPGINPIS KTELQAIMLA LHEQNQEQR AAQRAAGPSV  
ASRALQAARDRFPGLRRRRY HDPETAAALL GEAETEF

FIG. 32



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MMDPNSTSED VKFTPDPYQV PFVQAFDQAT RVYQDLGGPS QAPLPCVLWP VLPEPLPQQQ  
LTAYHVSTAP TGSWFSAPQP APENAYQAYA APQLFPVSDI TQNQQTNQAG GEAPQPGDNS  
TVQTAAAVVF ACPGANQGQQ LADIGVPQPA PVAAPARRTR KPQQPESLEE CDSELEI

@DNA BINDING@

♠107x178X4♠

+DIMERIZATION+

@KRY KNRVASRKCRK

♠EK@ Q

+LLQHYREVAAAKSSENDRLRLLLKQ♠

MCPSLDVD+ SI IPRTPDVLHE DLLNF

FIG. 33



FUSION  
PEPTIDE  
FAG

♥ALLMOTI5♥

\*LVS COILED-COIL\*

♥VVLAGAALGVATAAQITAGIALHQSM\*NSQAIDNLRASLETTN

QAIEAIROAGOEMI\*LAVQGVQDYINN♥ ELIPSMNQLSCDLIGQKLGLKLLRYTT

♣P23LZIPC♣

♣P6,12LZIPC♣

♠107X178X4♠

♥ALLMOTI5♥

EILSLFGPSLRD ♣PISA ♠♥EISIQLSYALGGDINKV♣ LEKLGYSGGDL♣

♣P1,12LZIPC♣

LGILES♠ RGIKARI♥ THVDTESYFIVLSIAY ♣PTLSEIKGVIVHRLEGV♣ SY

NIGSQEWYTTVPKYVATQGYLISNFEDESSCTFMPEGTVC SQNALYPMSPLLQECL

RGSTKSCARTLVSGSFGNRFILSQGNLIANCASILCKCYTTGTIINQDPDKILTYIAA

♣P23LZIPC♣

♣P12LZIPC♣

♥ALLMOTI5♥

\*LVS COILED-COIL\*

DHCPVVEVNGVTIQVGSRRYPDAVYLHRIDLGP ♣P ♥IS \*LERLDVGTNLGN

♦TRANSMEMBRANE REGION♦

AIKLEDAKELL♣ ESSDOI\*L♣ RSMK ♦GLSSTSIVYILI♥ AVCLGGLIGIP

ALICCC♦ RGRCNKKGEQVGMSRPGPKPDLTGTSKSYVRSL

FIG. 34





Pre S1 and Pre S2

MGQNLSTSNPLGFFPDHQLDPAFRANTANPDWDFNPNKDTWPDANKVGAGAFG

LGFTPPHGGLLGWSPQAQGILQTLPANPPPASTNRQSGRQPTPLSPPLRNTHPQAM

QWNSTTFHQTLQDPRVRGLYFPAGGSSSGTVNPVLTITASPLSSIFSRIGDPALN

MAJOR SURFACE ANTIGEN(HBs)

FUSION

PEPTIDE

♣P12 & 23LZIPC♣

MENITSG FLG ♣PLL VLQAGFFLLTRILTI♣ PQSLDSWWTSLNFLGGTTVCLG

♣P12 & 23LZIPC♣

QNSQSPTSNHSPTSCPPTC ♣PGYRWMCLRRFIIFLLFILLCLIFLLVLLDYQGML♣

PVCPLIPGSSTTSTGPCRTCMTTAQGTSMYPSCCCTKPSDGNCTCIPISSWAFGKF

♦TRANSMEMBRANE REGION♦

LWEWASARFSWLS ♦LLVPFVQWFVGLSPTYWLSYI♦ WMMWYWGPSL

♦TRANSMEMBRANE REGION♦

♦YSILSPFLPLLPIFFCLWVYI♦

FIG. 35



FUSION ♥ ALLMOTIS ♥ ♠107x178x4♠  
PEPTIDE \*LVS COILED COIL  
AIQLIPLFVG LGI ♥TTAVSTGAAGLGVS ♠IT \*QYTKLSHQLISDV

QAISSTIODLODOVDSLAEVVLQ\* NRRGLDLLTAE♠ QGGI♥

CLALQEKCCFYANKSGIVRDKIKNLQDDLERRRRQLIDNPFWTSFHG

FLPYVMPLLGPLLCLLLVLSFGPIIFNKLMTFIKHQIESIQAKPIQVHYH

TRANSMEMBRANE REGION  
RLEQEDSGGSYLTLT.....????????????????????????????.....

FIG. 36



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKAQKGFTLI ELMIVVAIIG ILAAIAPGQ

♠107x178x4♠

♥ALLMOTIS♥

♠♥YODYTARTOVTRAYSEVSALKTAAESAILEGKEIVSSA♠ T♥

PK DTQYDIGFT

♠107x178x4♠

♥ALLMOTIS♥

♠♥ESTLLDGSGKSOIQVTDNODGTVELVATLGKSSGS♠ AIKGAVITSR♥

KNDGV WNCKITKTPT AWKPNYAPAN CPKS

FIG. 37



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MNTLQKGFTL IELMIVIAIV GILAAVALPA YQDYTARAQV

SEAILLAEGQ KSAVTEYYLN HGIWP

♠107x178x4♠

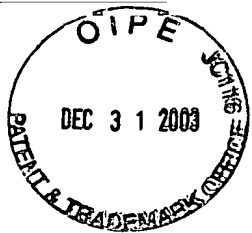
♥ALLMOTIS♥

♠♥KDNTSAGVASSSSIKGKYVKEYKVENG VVTAT♠

MNSSNVNKEIQGKKLSLWAKRQDGSVKW♥

FCGQP VTRNAKDDTV TADATGNDGK IDTKHLPSTC RDNFDAS

FIG. 38



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKKTLLGSLI LLAFAAGNVQA DINTETSGKV TFFGKVVENT

CKVKTEHKNL SVVLNDVGKN SLSTKVNTAM PTPFTITLQN

CDPTTANGTA NKANKVGLYF Y

♠107x178x4♠

♥ALLMOTIS♥

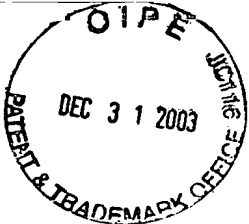
♠♥SWKNYDKENNETLKNEOTTADYATNYNI♠

QLMESNGTKAISVVGKETE♥

DF MHTNNGVAL NQTHPNNAHI SGSTQLTTGT NELPLHFIAQ

YYATNKATAG KVQSSVDFQI AYE

FIG. 39



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MNKKLLMNFF IVSPLLLATT ATDFTPVP

♠107x178x4♠

♥ALLMOTI5♥

♠♥LSSNOIKTAKASTNDNIKDLLDWYSSGSDTFTNS♠♥

EVLDNSL GSMRIKNTDG SISLIIFPSP YYSPAFTKGE KV

♠107x178x4♠

♠DLNTKRTKKSOHTSEGTYIHFOISGVT♠

N TEKLPTPIEL PLKVKVHVKD SPLKYG

♠P12LZIPC♠

♠PKFDKKQLAISTLDFEIRHQLTQI♠

HGLYRSSDKT GGYWKITMND GSTYQSDLSK KFEYNTEKPP

INIDEIKTIE AEIN

FIG. 40



♥ALLMOTIS♥  
MKKTAFILL FIALTLTTSP L ♥VNG

♠107x178x4♠  
\*LVS PREDICTED COILED-COIL\*  
\*S ♠EKSEEINEKDLRKKSELORNALSNLROIY\* YYNEKAITENKESDD♠

QFLENTLL♥ FKG FFTGHPW

♠107x178x4♠  
♠YNDLLYDLGSKDATNKYKGKKVDLYGAY♠

YGYQCAGGTPNKTACMYGGVTLHDN NRLTEKKVP INLWIDGKQTTV

♣P12LZIPC♣  
♣PIDKVKTSKKEVTQELDL♣ QARHYLHGK FGLYNSDSFGGKVQ

♣P12LZIPC♣  
RGLIVF HSSEGSTVSY DLFDAQGQY ♣P DTLRIYRDN KTINSENLHI♣

DLYLYTT

FIG. 41



♥ALLMOTIS♥  
MKKTAFTLLL FIALTLTTSP L ♥VNGS

♠107x178x4♠  
♠EKSEEINEKDLRKKSELOGTALGNLKOIYYYYNEKAKTENKESHD♠ Q♥

FLQHTILFKG FFTDHSWYND LLVDFDSKDI VDKYKGKKVDLYGAYY

GYQC AGGTPNKTAC MYGGVTLHDN NRLTEKKVPINL WLDGKQNTV

♠107x178x4♠  
♥ALLMOTIS♥  
♣P12LZIPC♣  
♣P ♥L ♠ETVKTNNKNVTVOELDLOARRYL♣ OEKYNLYN♠

SDVFDGKVQR♥ GLIVF HTSTE

♣P23LZIPC♣  
♣PSVNYDLFGAQQQYSNTLLRIYRDNKTINSENMIH♣ DIYLYTS

FIG. 42





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKNITFIFILLASPLYANGDRLYRADSRPPDEIKRFRSLMPRGNEYFDRGT

♡ALLMOTIS♡

♡QMNINLYDHARGTQTGFVRYDDGYV

♠107x178x4♠

♠STSLSLRSAHLAQYILSGYSLTIYIVI♠ ANMFNVNDVISVY♡

SP HPYEQEVSA L GGIPYSQIYG WYRVNFGVID ERLHRNREYR

DRYYRNLNIA PAEDGYRLAG FPPDHQAWRE EPWIIHAPQG

CGDSSRTITG DTCNE

♡ALLMOTIS♡

♡ETQNLSTIYLREYQSKVKRQIFSDYQSEVDIYNRIRDEL♡

FIG. 43



MMFSGFNADY EASSSRCSSA SPAGDSLSYY HSPADSFSSM

GSPVNAQDFC TDLAVSSANF IPTVTAISTS PDLQWLQPA

LVSSVAPSQT RAPHFPGVPA PSAGAYSRAG VVKMTMTGGRA

QSIGRRGKVE QLSPEEEEEKR RIRRE \*LVS PREDICTED COILED-COIL\*  
\*RNKMA AAK

♠107x178x4♠

♥ALLMOTIS♥

♥CRNRRREL ♠TDTLQAETDOLEDEKSALOTEIANLLKEKEKL♥

EFILAAHR\* PACKIPDDL GFPEEMSVAS LDLTGGLPEV

ATPESEEAFT LPLLNDPEPK PSVEPVKSIS SMELKTEPFD

DFLFPASSRP SGSETARSVP DMDLSGSFYA LPLLNDPEPK

PSVEPVKSIS SMELKTEPFD DFLFPASSRP SGSETARSVP

DMDLSGSFYA GSSSNEPSSD SLSSPTLLAL

FIG. 44



SGWESYYKTEGDDEEAEEEEQEEENLEASGDYKYSGRDSLIFLVDASKA  
MFESQSEDELTPFDMSIQCIQSVYISKIISDRDLLAVVFYGTEDKNS  
VNFKNYVLQELDNPGAKRILELDQFKGQQGQKRFQDMMGHGSDY  
SLSEVLWVCANLFSVDVQFKMSHKRIMLFTNEDNPHGNDSAKASRAR  
TKAGDLRDTGIFLDMHLKKPGGFDISLFYRDIISIAEDED

♠107x178x4♠

♥ALLMOTIS♥

\*LVS PREDICTED COILED-COIL\*

♥LRVH \*FEE ♠SSKLEDLLRKVRACKETRKRAISRLKLKLNKDIV\* ISV

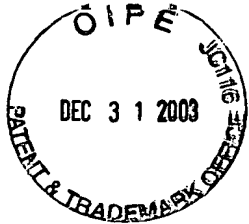
GIYNLVQKAL♥ KPPPIKLYRETN♠ EPVKTKTRTFNTSTGGLLLPSDTKR

SQIYGSQRQIILEKEETEELKRFDDPGLMLMGFKPLVLLKKHHLRPSLFVYPE  
ESLVIGS STLFSALLIKCLEKEVAALCRYTPRRNIPPYFVALVPQEEELDDQK  
IQVTPPGFQLVFLPFADDDRKMPFTEKIMATPEQVGKMKAIVEKLRFTYRS  
DSFENPVLQQHFRNLEALALDLME

♣PI2LZIPC♣

♣PEQAVDLTLPKVEAMNKRL♣ GSLVDEFKELVYPPDYNPEGKVTKR  
KHDNEGSGSKRPKVEYSEEELKTHISKGTLGKFTVPMLKEACRAYGLKSG  
LKKQELLEALTKHFQD

FIG. 45



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Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

GGGALSPQHSAVTQGSIIKNKEGMDAKS

♠107x178x4♠

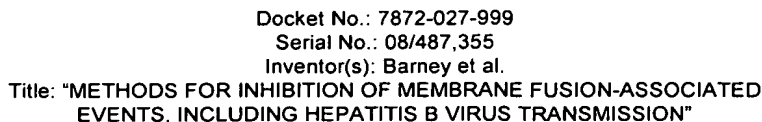
♥ALLMOTI5♥

♥♠LTAWSRTLVTFKDVFDFTREEWKLLDT♠ AQQIVYRNV  
MLENYKNLVSLGYQLT♥ KPDVILRLEKGEEPWLVEREIHQETHPD  
SETAFEIKSSVSSRSIFKDKQSCDIKMEGMARNDLWYLSLEE VWKCR  
DQLDKYQENPERHLRHQLIHTGEKPYECKECGKSFSRSSHLIGHQKT  
HTGEOPYECKECGKSFSWFSHLVTHQRTHTGDKLYTCNQCGKS FVH  
SSRLIRHQRTHTGHKPYECPECGKSFRQSTHLILHQRTHVVRVPYECN  
ECGKSYSQRSHLVVHHRIHTGLKPFECKDCGKCFSSSHLYSHQRTHT  
TGEKPYECHDCGKSFSQSSALIVHQRIHTGEKPYECCQCGKAFIRKN  
DLIKHQRIHVGAETKYCNQCGIIFSQNS

♣P23LZIPC♣

♣PFIVHQIAHTGEQFLTCGNQCGTALVNTSNLIGQTNHI♣ RENAY

FIG. 46



|               |                              |                            |                 |      |
|---------------|------------------------------|----------------------------|-----------------|------|
| RESIDUE - 438 | PDAVYLHRI                    | DLGPPISLERLDVGTNLGNAIAKLE  | AKELLESSDQILRSM | -488 |
|               |                              |                            |                 |      |
|               | MEASLES ED. 178-LIKE WALK    |                            |                 |      |
|               |                              |                            |                 |      |
|               |                              |                            |                 |      |
| T-252AO       | PDAVYLHRI                    | DLGPPISLERLDVGTNLGNAIAKLED |                 |      |
| T-253AO       | DAVYLHRI                     | DLGPPISLERLDVGTNLGNAIAKLE  | A               |      |
| T-254AO       | AVYLHRI                      | DLGPPISLERLDVGTNLGNAIAKLE  | AK              |      |
| T-255AO       | VYLHRI                       | DLGPPISLERLDVGTNLGNAIAKLE  | AKE             |      |
| T-256AO       | YLHRI                        | DLGPPISLERLDVGTNLGNAIAKLE  | AKE             |      |
| T-257B1,C1    | LHRI                         | DLGPPISLERLDVGTNLGNAIAKLE  | AKE             |      |
| T-258B1       | HRIDLGPPISLERLDVGTNLGNAIAKLE |                            |                 |      |
| T-259B1       | RLDLGPPISLERLDVGTNLGNAIAKLE  |                            |                 |      |
| T-260B1       | IDLGPPISLERLDVGTNLGNAIAKLE   |                            |                 |      |
| T-261AO       | DLGPPISLERLDVGTNLGNAIAKLE    |                            |                 |      |
| T-262B1       | LGPPISLERLDVGTNLGNAIAKLE     |                            |                 |      |
| T-263B1       | GPPI                         | SLERLDVGTNLGNAIAKLE        | AKELLESSDQI     |      |
| T-264B1       | PPISLERLDVGTNLGNAIAKLE       |                            |                 |      |
| T-265B1       | PI                           | SLERLDVGTNLGNAIAKLE        | AKELLESSDQILR   |      |
| T-266AO       | ISLERLDVGTNLGNAIAKLE         |                            |                 |      |
| T-267AO       | SLERLDVGTNLGNAIAKLE          |                            |                 |      |
| T-268AO       | IFRIDVGTNLGNAIAKLE           |                            |                 |      |



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EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|  |           |    |  |
|--|-----------|----|--|
|  |           |    |  |
|  |           |    |  |
|  |           |    |  |
|  | AVERAGE   | CD |  |
|  | IC50      |    |  |
|  | -         | -  |  |
|  | -         | -  |  |
|  | -         | -  |  |
|  | -         | -  |  |
|  | -         | -  |  |
|  | -         | -  |  |
|  | 1.35ug/ml | -  |  |
|  | .343ug/ml | -  |  |
|  | 1.78ug/ml | -  |  |
|  | .186ug/ml | -  |  |
|  | +         | -  |  |
|  | .193ug/ml | -  |  |
|  | 1.32ug/ml | -  |  |
|  | 1.01ug/ml | -  |  |
|  | .072ug/ml | -  |  |
|  | -         | -  |  |
|  | +/-       | -  |  |
|  | +         | -  |  |

FIG.47B

[illegible]

**FIG. 48A**

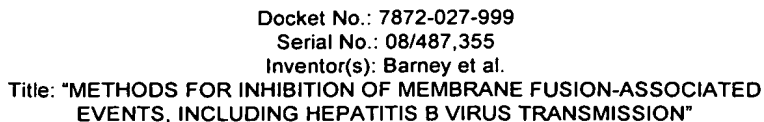
Docket No.: 7872-027-999  
Serial No.: 08/487,355  
Inventor(s): Barney et al.  
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"





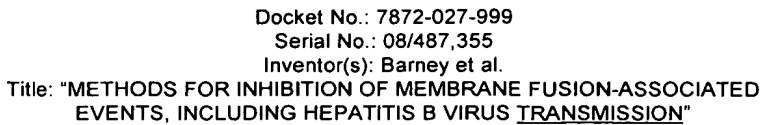
[illegible]

FIG. 49B

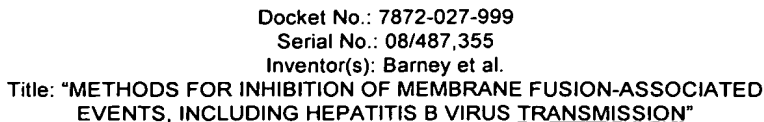
[illegible]

[illegible]





|          |  |             |
|----------|--|-------------|
|          |  |             |
|          |  |             |
|          |  |             |
|          |  |             |
|          |  |             |
| 7        |  |             |
| 1        |  |             |
| 7        |  |             |
|          |  |             |
|          |  |             |
|          |  | HIV-1/IIB   |
|          |  | IC50(ng/ml) |
|          |  |             |
| T4       |  | >400000     |
| T28      |  | >50000      |
| T700     |  | >100000     |
| T715     |  | ND          |
| T65/T716 |  | ND          |
| T714     |  | ND          |
| T712     |  | ND          |
| T64      |  | ND          |
| T63      |  | ND          |
| T62      |  | ND          |
| I3       |  | 3000        |
| T61/T102 |  | 64000       |
| T217     |  | 40000       |
| T218     |  | 25000       |
| T219     |  | 48000       |
|          |  |             |

[illegible]



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|          |         |
|----------|---------|
| T220     | 59000   |
| T221     | 16000   |
| T234     | >100000 |
| T235     | 53000   |
| T570     | >100000 |
| T381     | 89000   |
| T382     | 190000  |
| T677     | 6310    |
| T376     | >100000 |
| T589     | 745000  |
| T377     | 69000   |
| T590     | 30290   |
| T378     | 95000   |
| T591     | 59000   |
| T270     | >200000 |
| T271     | 16000   |
| T272     | 1000    |
| T273     | >100000 |
| T608     | >100000 |
| T609     | >100000 |
| T610     | >100000 |
| T611     | 70000   |
| T612     | >100000 |
| T222     | 49000   |
| T223     | 57000   |
| T60/T224 | 77000   |
| T225     | >100000 |
| T226     | >100000 |
| T227     | >100000 |

FIG.49H



DEC 31 2003

Docket No.: 7872-027-999

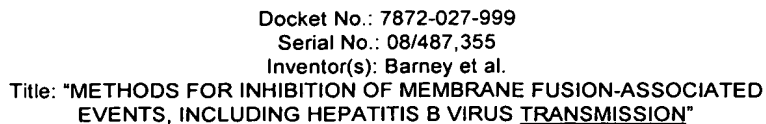
Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

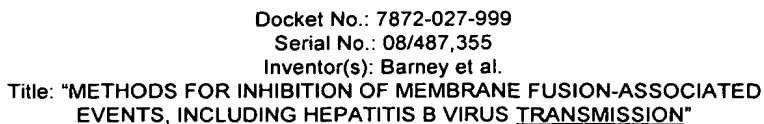
[illegible]

FIG. 49I



**FIG. 49J**

**FIG. 49J**



|      |   |  |  |  |  |  |              |
|------|---|--|--|--|--|--|--------------|
| T99  | X |  |  |  |  |  | YTSLIHSLIEES |
| T103 | X |  |  |  |  |  | YTSLIQSLIEES |
| T212 | X |  |  |  |  |  | YTSLIHSLIEES |
| T213 | X |  |  |  |  |  | YTSLIHSLIEES |
| T214 | X |  |  |  |  |  | YTSLIHSLIEQS |
| T215 | X |  |  |  |  |  | YTSLIHSLIQES |
| T216 | X |  |  |  |  |  | YTSLIHSLIQQS |
| T229 | X |  |  |  |  |  | YTSLIHSLIEES |
| T230 | X |  |  |  |  |  | YTSLIHSLIEES |
| T231 | X |  |  |  |  |  | YTSLIQSLIEES |
| T379 | X |  |  |  |  |  | YTSLIHSLIEES |
| T701 | X |  |  |  |  |  | YTSLIHSLIEES |
| T702 | X |  |  |  |  |  | YTSLIHSLIEES |
| T703 | X |  |  |  |  |  | YTSLIHSLIEES |
| T704 | X |  |  |  |  |  | YTSLIHSLIEES |
| T705 | X |  |  |  |  |  | YTSLIHSLIEES |
| T706 | X |  |  |  |  |  | YTSLIHSLIEES |
| T156 | X |  |  |  |  |  | LLDNFESTWEQS |
| T89  | X |  |  |  |  |  | LLDNFESTWEQS |
| T90  | X |  |  |  |  |  | LSNLLQISNNSD |



Docket No.: 7872-027-999

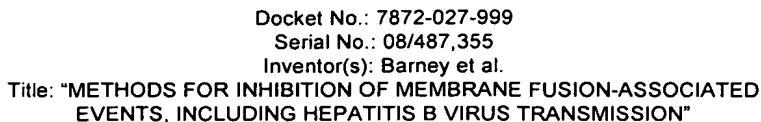
Serial No.: 08/487,355

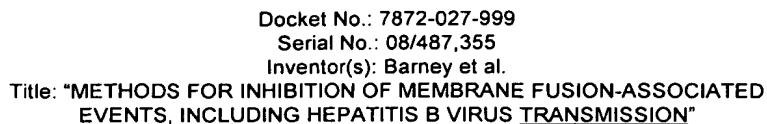
Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |         |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---------|
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | Q | L | D | K | W | A | S | L | W | N | W | F | T | 99  | 56      |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 103 | ND      |
| Q | Q | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 212 | 3       |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | N | K | W | A | S | L | W | N | W | F | T | 213 | 25      |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 214 | 19      |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 215 | 23      |
| Q | N | Q | Q | Q | K | N | Q | Q | Q | L | L | Q | L | D | K | W | A | S | L | W | N | W | F | T | 216 | 1000    |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | A | N | A | A | T | 229 | >100000 |
| Q | N | Q | Q | E | K | N | Q | Q | Q | L | L | E | L | D | K | E | A | S | L | W | N | W | F | T | 230 | 6       |
| Q | N | Q | Q | E | K | N | Q | Q | Q | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 231 | 4       |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | F | N | F | F | T | 379 | 0.3     |
| Q | N | L | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 701 | 3       |
| Q | N | Q | Q | E | K | L | E | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | W | F | T | 702 | 36      |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | F | D | K | W | A | S | L | W | N | W | F | T | 703 | 0.5     |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | P | A | S | L | W | N | W | F | T | 704 | 510     |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | P | W | N | W | F | T | 705 | 14      |
| Q | N | Q | Q | E | K | N | Q | Q | E | L | L | E | L | D | K | W | A | S | L | W | N | S | F | T | 706 | 68      |
| K | E | L | W | E | Q | Q | E | I | S | I | Q | N | L | H | K | S | A | L | Q | E | Y | W | N | T | 156 | 80000   |
| K | E | L | W | E | Q | Q | E | I | S | I | Q | N | L | H | K | S | A | L | Q | E | Y | W |   | T | 89  | >100000 |
| E | W | L | E | A | L | E | I | E | H | E | K | W | K | L | T | Q | W | Q | S | Y | E | Q | F | T | 90  | >100000 |

FIG.49L

[illegible]

[illegible]



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

| EPSTEIN-BARR VIRUS STRAIN B95.8 BZLF1 TRANSACTIVATOR PROTEIN EB1 OR ZEBRA |     |    |    |    |    |    |    |    |   |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |  |  |     |     |     |    |    |
|---|-----|----|----|----|----|----|----|----|---|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|--|--|-----|-----|-----|----|----|
| RESIDUE   | 173 | SE | LE | IK | RY | K  | NR | V  | A | SR | K  | C  | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | 219 |  |  |     |     |     |    |    |
| T-423   | 173 | SE | LE | IK | RY | K  | NR | V  | A | SR | K  | C  | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K |   |   |   |   |   |   |   |   |   |   |     |  |  | 208 | +++ | 35  |    |    |
| T-424   | 174 | E  | LE | IK | RY | K  | NR | V  | A | SR | K  | C  | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |   |     |  |  | 209 | -   | 35  |    |    |
| T-425   | 175 |    | LE | IK | RY | K  | NR | V  | A | SR | K  | C  | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |   |     |  |  | 210 | -   | 35  |    |    |
| T-426   | 176 |    | E  | IK | RY | K  | NR | V  | A | SR | K  | C  | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |   |     |  |  | 211 | -   | 35  |    |    |
| T-427   | 177 |    |    | IK | RY | K  | NR | V  | A | SR | K  | C  | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |   |     |  |  | 212 | -   | 35  |    |    |
| T-428   | 178 |    |    |    | K  | RY | K  | NR | V | A  | SR | K  | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |     |  |  |     | 213 | -   | 35 |    |
| T-429   | 179 |    |    |    |    | RY | K  | NR | V | A  | SR | K  | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |     |  |  |     | 214 | -   | 35 |    |
| T-430   | 180 |    |    |    |    | Y  | K  | NR | V | A  | SR | K  | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |     |  |  |     | 215 | -   | 35 |    |
| T-431   | 181 |    |    |    |    |    | K  | NR | V | A  | SR | K  | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |     |  |  |     | 216 | -   | 35 |    |
| T-432   | 182 |    |    |    |    |    |    | NR | V | A  | SR | K  | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |   |     |  |  |     | 217 | -   | 35 |    |
| T-433   | 183 |    |    |    |    |    |    |    | R | V  | A  | SR | K | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |     |  |  |     |     | 218 | -  | 35 |
| T-434   | 184 |    |    |    |    |    |    |    |   | V  | A  | SR | K | C | R | A | K | F | K | Q | L | L | Q | H | Y | R | E | V | A | A | K | S |   |   |   |   |   |   |   |     |  |  |     |     | 219 | -  | 35 |
| #   |     |    |    |    |    |    |    |    |   |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |  |  |     |     |     |    |    |

FIG.51A







Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

|         |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |    |
|---------|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|----|
| RESIDUE | 197 | L | Q | H | Y | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H   | E   | D   | 242 | 45 |
| T-447   | 197 | L | Q | H | Y | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I |   |   |   |   |   |   |   |     | 232 | 35  |     |    |
| T-448   | 198 | Q | H | Y | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P |   |   |   |   |   |   |   | 233 | 35  |     |     |    |
| T-449   | 199 | H | Y | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R |   |   |   |   |   |   |   | 234 | 35  |     |     |    |
| #       | 200 | Y | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T |   |   |   |   |   |   |   | 235 | 35  |     |     |    |
| T-451   | 201 | R | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P |   |   |   |   |   |   |   | 236 | 35  |     |     |    |
| T-452   | 202 | E | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D |   |   |   |   |   |   |   | 237 | 35  |     |     |    |
| T-453   | 203 | V | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V |   |   |   |   |   |   |   | 238 | 35  |     |     |    |
| T-454   | 204 | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L |   |   |   |   |   |   |   | 239 | 35  |     |     |    |
| T-455   | 205 | A | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H |   |   |   |   |   |   | 240 | 35  |     |     |    |
| T-456   | 206 | A | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E |   |   |   |   |   |   | 241 | 35  |     |     |    |
| T-457   | 207 | K | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E | D |   |   |   |   |   |   | 242 | 35  |     |     |    |
| T-458   | 208 | S | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E | D | L |   |   |   |   |   |   | 243 | 35  |     |     |    |
|         |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |    |
| RESIDUE | 209 | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E | D | L | L | N | F |   |   |   |   |     | 246 | 37  |     |    |
| T-459   | 209 | S | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E | D | L | L |   |   |   |   |   |   |     |     | 244 | 35  |    |
| T-460   | 210 | E | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E | D | L | L | N |   |   |   |   |   |   |     |     | 245 | 35  |    |
| T-461   | 211 | N | D | R | L | R | L | L | K | Q | M | C | P | S | L | D | V | D | S | I | I | P | R | T | P | D | V | L | H | E | D | L | L | N | F |   |   |   |   |   |   |     |     | 246 | 35  |    |

FIG.51C



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

DOMAIN I:

174 P-L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q-S-P 219

P-L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T  
L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T  
L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V  
V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C  
L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L  
Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G  
A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q  
G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N  
F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S  
F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q  
L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q-S

FIG.52A



DOMAIN II:

233 P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T-G-P-C-R-T-C-M-T-T 290

P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L  
G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P  
Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V  
R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C  
W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P  
M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L  
C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I  
L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P  
R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G  
R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S  
F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S  
I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T  
I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S  
F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T  
L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T-G  
F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T-G-P  
I-L-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T-G-P-C  
L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T-G-P-C-R  
L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-T-T-S-T-G-P-C-R-T  
L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C  
C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M  
L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T  
I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T-T

FIG. 52B